

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☒

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Hrubetz Oil Company

3. ADDRESS OF OPERATOR

c/o Steedley & Associates, P.O. Box 885, Worland, WY 82401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

660' FEL 660' FSL

At proposed prod. zone

same

SESE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

14 miles south of Blanding, Utah

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 660'18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

160

19. PROPOSED DEPTH

6500'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

4869' GR

22. APPROX. DATE WORK WILL START*

Upon Approval

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24# K55 STC	1600'	1000 SKS
7 7/8"	5 1/2"	20# K55 STC	6500'	250 SKS

1. Propose to drill 12 1/4" hole to 1600', set 8 5/8" casing and cement to surface.

2. Drill 7 7/8" hole to 6500' or TD; if productive, set 5 1/2" casing at T.D. and cement with 250 sacks.

This will be a Desert Creek Test.

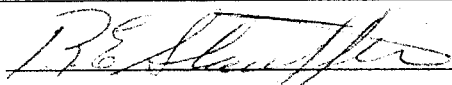
Exhibits attached:

- A. Location and Elevation Plot.
- B. Ten Point Compliance Program.
- C. Blowout Preventer Diagram.
- D. Multipoint Requirement for A.P.D.
- E. Access Road Map.
- F. Radius Map.
- G. Drill Rig Layout with Cross Sections.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED



TITLE

Drilling Manager

DATE 9-7-83

(This space for Federal or State office use)

PERMIT NO.

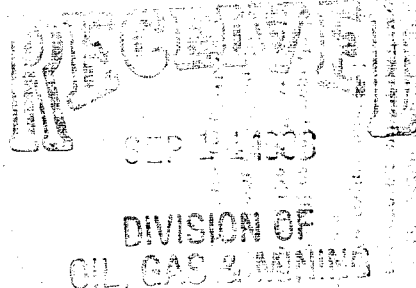
APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:



STEEDLEY & ASSOCIATES

ENGINEERING SERVICES

P.O. BOX 885

WORLAND, WYOMING 82401

DICK STEEDLEY, Pres.
BUS. (307) 347-~~8241~~ 3593
WORLAND, WYOMING 82401

WATER PERMITS
LAND LEASE WORK
SURFACE INSPECTIONS
FEDERAL N.T.L. 6 PERMITTING
GEOPHYSICAL PERMITS & SURVEYS

HRUBETZ OIL COMPANY
#1-28 Cuthair
Sec. 28, T38S, R22E
San Juan County, Utah

DRILLING PROGNOSIS

1. Surface Formation: Morrison.

2. and 3. Geologic Markers and Anticipated Oil, Gas & Water Zones:

<u>Formation</u>	<u>Depth</u>	<u>Remarks</u>
Entrado	1,195'	
Shinarump	3,037'	
Ismay	6,050'	
Desert Creek	6,310'	Oil or Gas
Paradox Salt	6,450'	
Total Depth	6,500' ✓	

4. Proposed Casing Program:

<u>Size</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Condition</u>	<u>Depth Set</u>
8 5/8"	K-55STC	24#	New	1,600'
5 1/2"	K-55 STC	20#	New	6,500'

5. Operator's Minimum Specifications For Pressure Control:

Exhibit "C" is a schematic diagram of the blowout preventer equipment. The BOP's will be hydraulically tested to the full working pressure after nipping up and after any use under pressure. Pipe rams will be operationally checked each 24-hour period and blind rams and with annular preventer each time pipe is pulled out of the hole.

Accessories to BOP's include an upper and a lower kelly cock, floor safety valve, drill string BOP and choke manifold with pressure rating equivalent to the BOP stack.

6. Type and Characteristics of the Proposed Circulating Muds:

The mud system will be gel-chemical with adequate stocks of sorptive agents and other materials on site to handle any anticipated down-hole problem as well as possible spills of fuel and oil on the surface.

- (a) 0 - 1,200' spud with mud or water as determined at well site.
- (b) 1,200' - 6,500' fresh water or mud as necessary for hole conditions.

Weight of mud: 8.8 - 9.6#/gal.
Viscosity: 35 to 45 sec.
Water Loss: Less than 10 cc.

7. Auxillary Equipment:

- A. A kelly cock will be kept in the string at all times.
- B. A float will not be used.
- C. A mud logging unit or gas detecting unit will be used for monitoring system.
- D. A stabbing valve will be on the floor to be stabbed into the drill pipe when kelly is not in the string.

8. Testing, Logging and Coring Programs to be Followed:

- A. A test is expected in the Paradox Salt horizon, the primary objective. Other zones will be tested, as needed.
- B. Logging Program:
 - DIL - GR -SP) Tanden - SCP - T.D.
 - BHC - Sonic - GR)
 - CNL - FDC - GR - TD - 1,000'
- C. Stimulation procedures will be determined after evaluation of logs. If treatment is indicated, appropriate Sundry Notice will be submitted.

9. Potential Hazards:

No abnormal pressures, temperatures or H₂S anticipated.

10. Anticipated Starting Date:

On Approval.

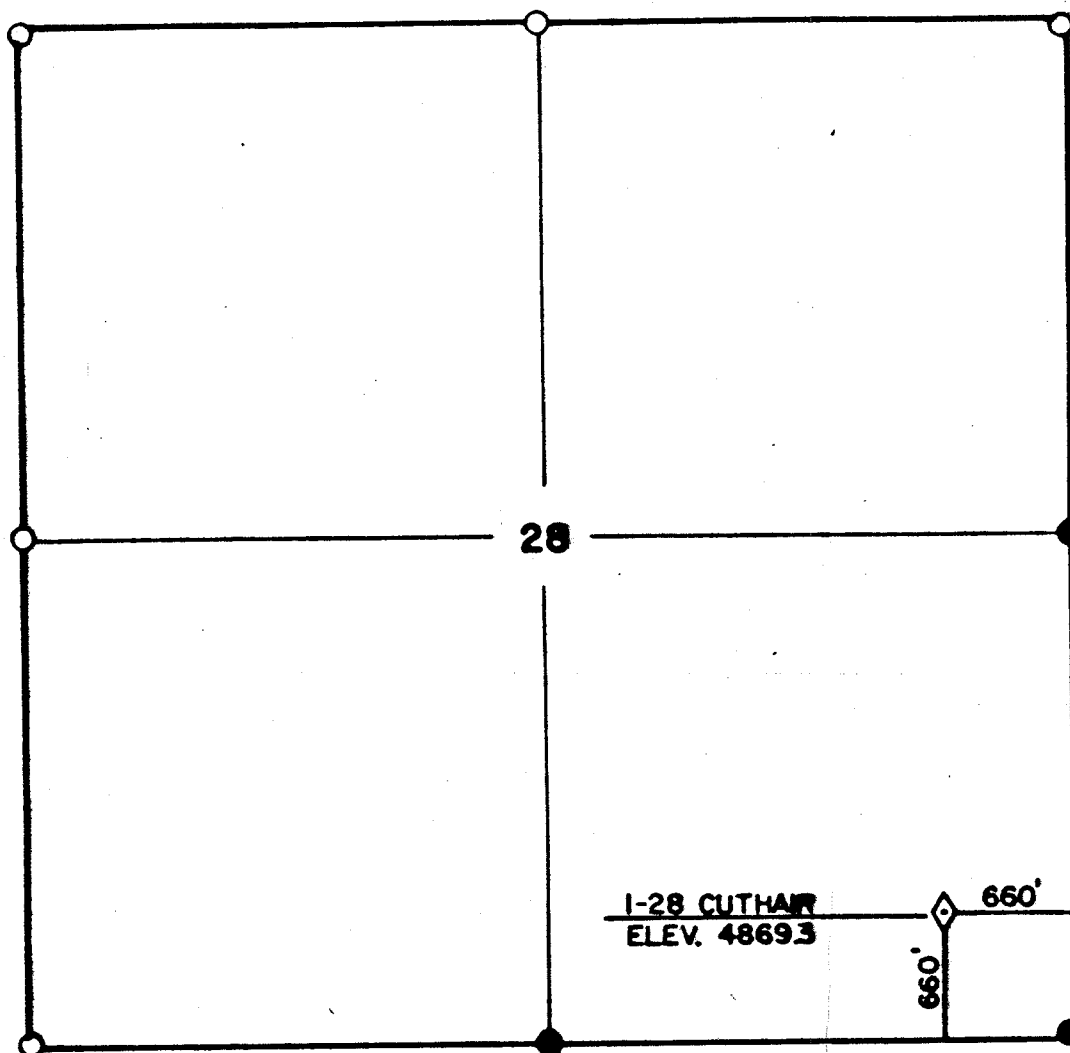
Duration of Operations:

The operations should be completed within 90 days after spudding the well and drilling to the casing point.

R. 22 E.



SCALE 1" = 1000'



CERTIFICATE OF SURVEYOR

STATE OF UTAH
COUNTY OF SAN JUAN

} SS

I, Dale R. Griffin of Rock Springs, Wyoming, hereby certify that this map was made from notes taken during an actual survey under my direct supervision on August 31, 1988, and that it shows correctly the location of I-28 CUTHAIR.

UTAH RES 5120

NOTE

- FOUND CORNER
- PROPORTIONED CORNER
- ◇ WELL LOCATION

JOB NO. 815

PLAT OF DRILLING LOCATION

**HRUBETZ OIL COMPANY
I-28 CUTHAIR**

**C SE 1/4, SE 1/4, SEC. 28, T 38 S, R 22 E,
COLO. G. MERD., SAN JUAN COUNTY, UTAH**

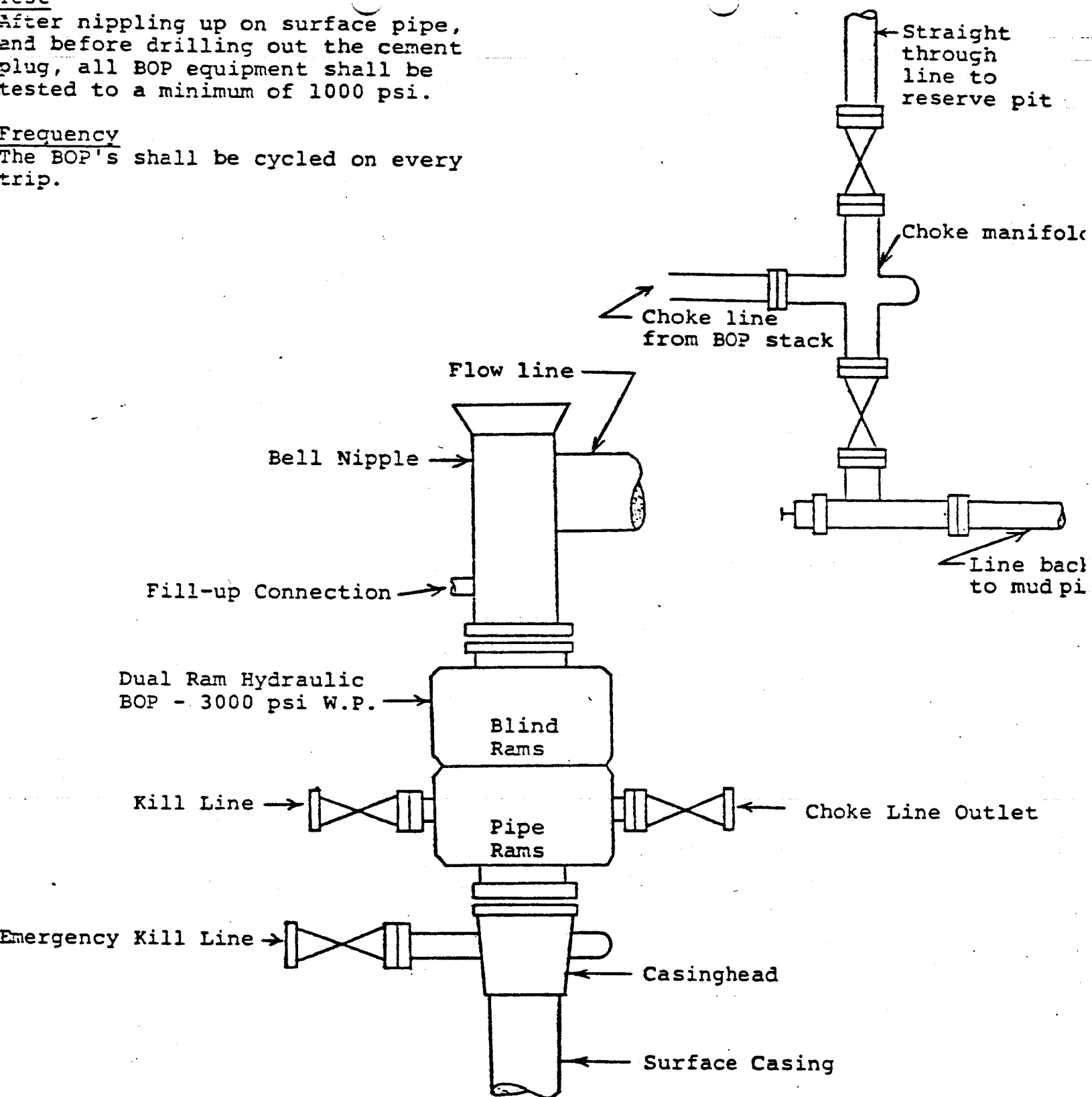
Prepared by:

D. R. GRIFFIN & ASSOCIATES
P.O. BOX 1059 (307) 362-5028
ROCK SPRINGS, WYOMING 82901

LOW PRESSURE WELLS

Test
After nipping up on surface pipe,
and before drilling out the cement
plug, all BOP equipment shall be
tested to a minimum of 1000 psi.

Frequency
The BOP's shall be cycled on every
trip.



Schematic Drawing
3000 psi - BOP Equipment

STEEDLEY & ASSOCIATES

ENGINEERING SERVICES

P.O. BOX 885

WORLAND, WYOMING 82401

DICK STEEDLEY, Pres.
BUS. (307) 347-XXXX 3593
WORLAND, WYOMING 82401

WATER PERMITS
LAND LEASE WORK
SURFACE INSPECTIONS
FEDERAL N.T.L. 6 PERMITTING
GEOPHYSICAL PERMITS & SURVEYS

HRUBETZ OIL COMPANY
#1-28 Cuthair
Sec. 21, T38S, R22E
San Juan County, Utah

MULTIPOINT SURFACE USE AND OPERATIONS PLAN

1. Existing Roads - See Exhibit "A"

- A. The proposed wellsite is staked and the surveyors plat is attached. Four 200' reference stakes are present.
- B. Starting at Blanding, Utah, go south on state highway 47 11 miles, then southwesterly on graded road for 1.8 miles then left on unimproved road for approximately .6 mile to the well location. The access road crosses B.L.M. land for approximately .2 mile in the NSW Sec. 27, T38S, R22E. We are making application for a right-of-way for this part of the road by way of this A.P.D. A copy of this A.P.D., along with filing fee, is being forwarded to the B.L.M. office in Monticello, Utah.
- C. All access roads are shown in red on Exhibit "E".
- D. All roads within a 3-mile radius are shown on Exhibit "F".
- E. We plan to upgrade the existing roads by blading with approximately .2 mile into the location requiring extensive construction. No culverts will be necessary; all drainages will have drive through crossings.

2. Planned Access Roads

1. Width: 18' wide running surface will be flat bladed to remove brush; construction will be limited to 22'.
2. Maximum grade: 13%.
3. Turnouts: None.
4. Drainage design: None.
5. Culverts: None.
6. Surfacing materials: We do not plan to surface this road at this time. Surfacing material will not be placed on the access road or location without prior B.I.A. approval.
7. The operator or his contractor will contact the San Juan Resources Area office in Monticello, Utah (801) 587-2201 48 hours prior to beginning any work on public land.
8. The dirt contractor will be furnished with a copy of the Surface Use Plan and any additional B.I.A. stipulations prior to the start of any work.
9. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed must be approved in advance.

3. Location of Existing Wells

All existing wells known in the area are shown directly on Exhibit "F" within the 2-mile radius.

1. Water wells: None.
2. Abandoned wells: None.
3. Temporarily abandoned wells: None.
4. Disposal wells: None.
5. Drilling wells: None.
6. Producing wells: None.
7. Shut-in wells: None.
8. Injection wells: None.
9. Monitoring or observation wells: None.

4. Location of Existing and/or Proposed Facilities

A. Hrubetz Oil Company does not have any production facilities within one mile of this location.

1. Tank batteries: None.
2. Production facilities: None.
3. Oil gathering lines: None.
4. Gas gathering lines: None.
5. Injection lines: None.
6. Disposal lines: None.

B. It is contemplated that, in the event of production, all new facilities will be easily accommodated on the drill pad on the solid base of cut and not placed on the fill areas.

1. No additional flagging will be needed as all facilities will be on the drill pad.
2. The drill pad will be 350' long and 200' wide. The dimensions and location of drilling and future production facilities are shown on Exhibit "G".
3. Concrete, if needed, and any gravels needed will be purchased from private sources.
4. All pits will be fenced to minimize any hazard to sheep, cattle, antelope and other animals that graze the area. Wire mesh covering will be used as needed, if water or other fluid is produced.

C. The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed in the methods described in the rehabilitation section. Enough topsoil will be retained to reclaim the remainder of the location at a future date. The remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

5. Water Supply

- A. The water haul company will provide all permits and make arrangements to furnish water.
- B. The water will be transported by tank truck over existing roads from the source to the well site.
- C. No water well will be drilled.

6. Source of Construction Materials

- A. Native soil from the well site will be used to build this location.
- B. No construction material will be obtained from Federal or Indian land.
- C. No sand or gravel will be needed at this time.
- D. No access road will be needed for construction material.

7. Handling Waste Disposals

- 1. Drill cuttings will be buried in the reserve pit when dry.
- 2. Drilling fluids will be handled in the reserve pit.
- 3. Any produced fluid during drilling test or while making production tests will be collected in test tank. Any unavoidable spills will be cleaned up and removed.
- 4. Any sewage will be covered or removed and chemical toilets will be provided.
- 5. Garbage, wastes and non-flammable wastes, salts and other chemicals produced or used during drilling or testing will be handled in the reserve pit or kept in the trash burn pit.
- 6. Immediately on completion of drilling, the location and surrounding area will be cleared of all debris resulting from the operation. All trash will be disposed of in the trash pit. Nonburnable debris will be hauled to a local town dump site.
- 7. A burning permit will be required before burning trash between May 1 and October 31. This can be acquired by contacting the State Fire Warden, John Baker (801) 587-2705.

8. Ancillary Facilities

No proposed airstrip, camp, or other facility will be built during the drilling or completion of this well.

9. Well Site Layout

- 1. Cross sections and cuts and fills are shown on Exhibit "G".
- 2. The top 4" of soil material will be removed from the location and stockpiled on the west side of the location. Topsoil along access will be reserved in place. Mud tanks, reserve, burn, trash, and flare pits, pipe racks, living facilities and soil stockpiles are shown on Exhibit "G". A trash pit will be constructed near the mud tanks with steep sides and dug at least 6' into solid undisturbed material. It will be totally enclosed with a fine mesh wire before the rig moves onto the location.
- 3. Rig orientation, parking areas, production facilities and access road are all shown on Exhibit "G". All above ground production facilities will be painted buff or beige.
- 4. The reserve pit will not be lined. Three sides of the reserve pit will be fenced with 4' of sheep wire and two strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is complete. The fence will be kept in good repair while the pit is drying.

10. Plans for Restoration

- A. The operator or his contractor will contact the Ute Mountain Ute office in Toawac, CO (303) 565-8931, 48 hours prior to starting rehabilitation work that involves earthmoving equipment and upon completion of restoration measures.

- B. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- C. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography.
- D. The stockpiled topsoil will be evenly distributed over the disturbed area.
- E. All disturbed areas will be scarified with the contour to a depth of 4 to 6 inches.
- F. Seed will be drilled at a time specified by the B.I.A. with 2# of Indian Ricegrass, 1# of Crested Wheatgrass, 1# Fourwing Saltbrush, and 1# Sand Dropseed per acre.

11. Other Information

- 1. Topography: This well site is located on a ridge at an elevation of 4,869'. Drainage from this area would be into Right Hand Fork of Cottonwood Wash.
Soil Characteristics and Geologic Features: This soil is a buff-colored sandy clay with sandstone above the location area.
Flora: The flora consists of sagebrush, cedar, juniper, brome grass, snake-weed, Mormon tea, rabbit brush, and prickly pear cactus.
Fauna: Deer, rabbits, reptiles, coyotes and skunks make up most of the wild life, while cattle were the only domestic species in evidence.
- 2. Type of Surface Use Activity: The primary use of the surface is grazing.
Surface Ownership of all Involved Lands: The surface ownership of all involved land is Indian land under the jurisdiction of the Bureau of Indian Affairs.
- 3. Occupied Dwellings: The nearest occupied dwelling is the village of White Mesa, about 2 miles northeast of this location.
Archeological or Historical Sites: There are no known archeological or historical sites in the area of this well site. If subsurface cultural material is exposed during construction, work in that spot will stop immediately and the San Juan Resource Area office will be contacted. All employees working will be subject to prosecution if they are caught disturbing archeological sites or picking up artifacts. Salvage or excavation of identified archeological sites will only be done if damage occurs.

12. Lessee's or Operator's Representative

**Dick Steedley
Agent Consultant for
Hrubetz Oil Company
Worland, Wyoming
Office Phone (307) 347-3593

Robert E. Stauffer
Drilling Manager for
Hrubetz Oil Company
Dallas, Texas
Phone (214) 363-7833

**Contact (307) 762-3313 (home phone) for predrill inspection and additional data if required.

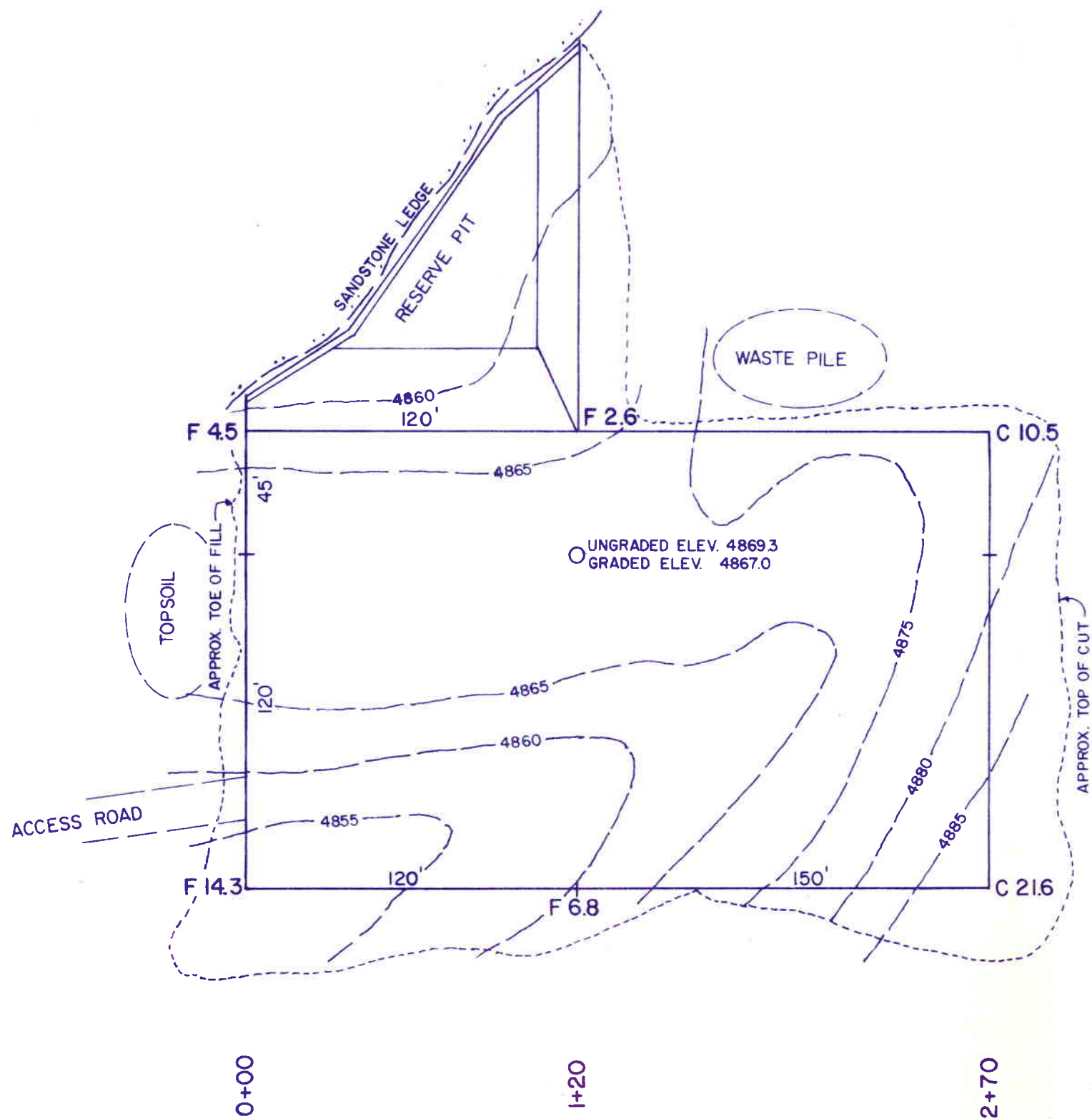
13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Hrubetz Oil Company, and its contractors in conformity with this plan and the terms and conditions under which it is approved.

Date

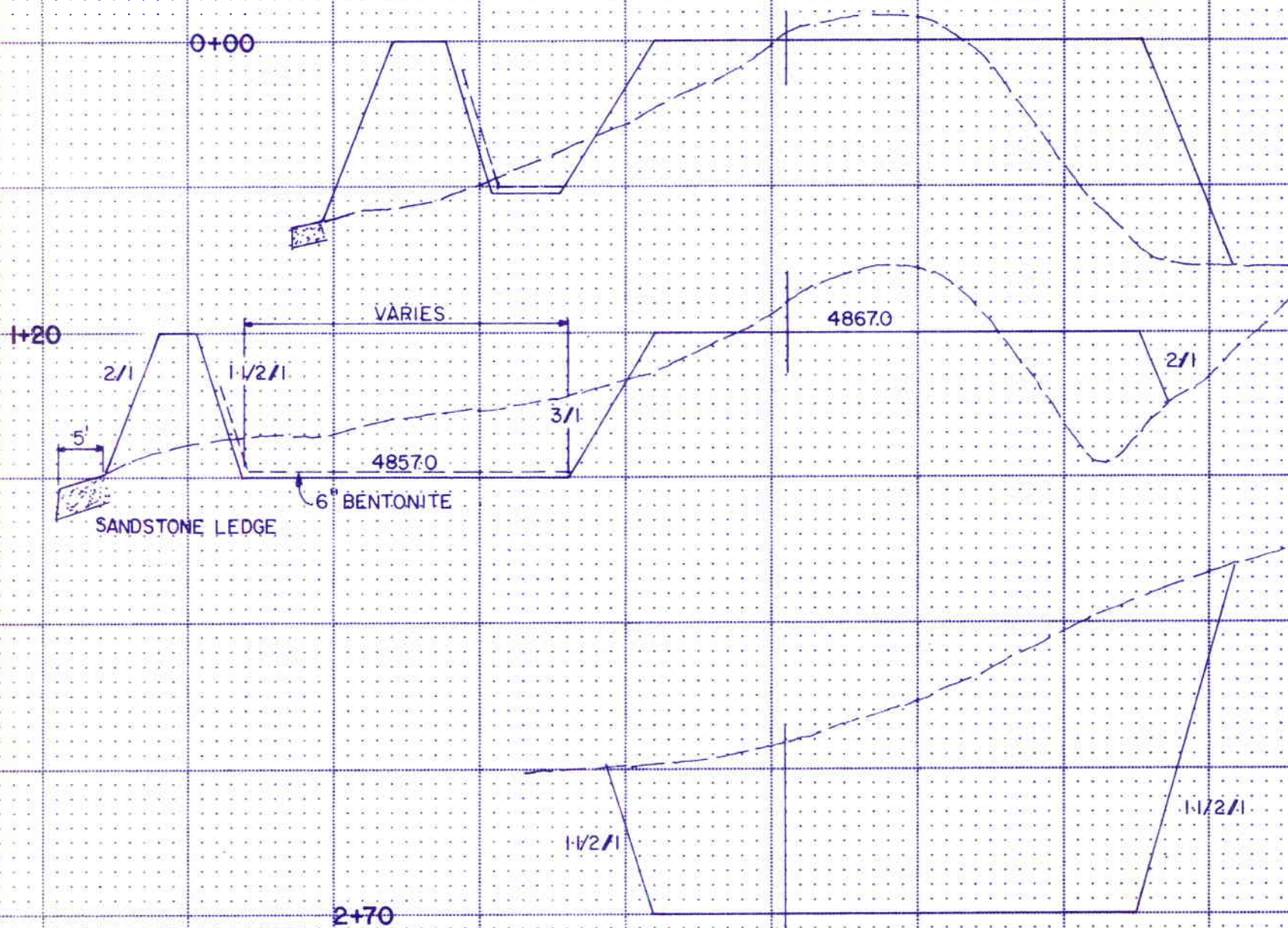
9/7/83

Dick Steedley
Dick Steedley, Agent for Hrubetz Oil Company



LAYDOWN - N 76° 00' E
SCALE: 1" = 50'

SCALE: 1" = 50' HORIZ.
1" = 10' VERT.



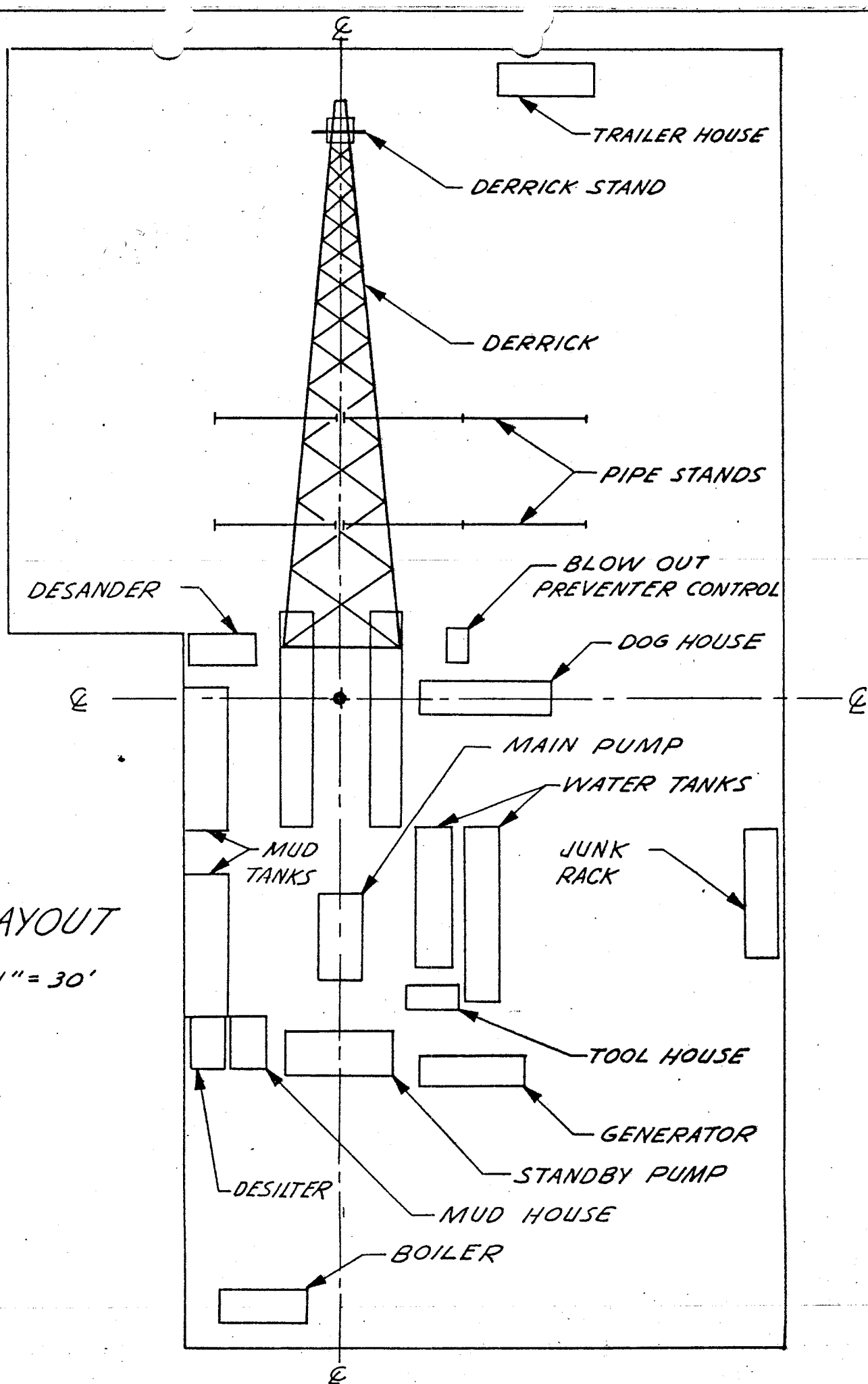
DIRT WORK

PAD—
CUT=8,982 CY
FILL=8,982 CY
PIT—
CUT=3,700 CY

HRUBETZ OIL COMPANY
1-28 CUTHAIR
C SE 1/4, SE 1/4, SEC. 28, T 38 S, R 22 E.
SAN JUAN COUNTY, UTAH

NOTE: DIRT WORK QUANTITIES ARE APPROXIMATE.
QUANTITIES MAY VARY 20% MORE OR LESS.

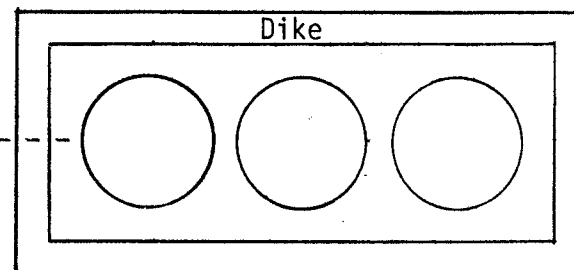
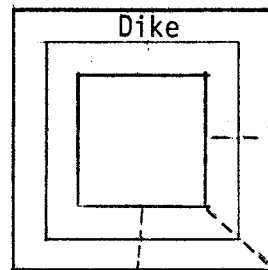
D.R. GRIFFIN & ASSOCIATES
P.O. BOX 1059
ROCK SPRINGS, WYOMING
(307) 362-5028
JOB No. 815



RIG LAYOUT

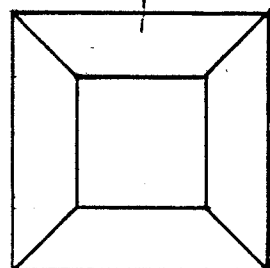
SCALE: 1" = 30'

Treater



Production Tanks

Well Head



Production Pit

Reserve Pit
(to be backfilled)

Scale 1" = 30'

OPERATOR HRUBETZ OIL CO

DATE 9-15-83

WELL NAME CUTHAIR 1-28

SEC SESE 28 T 38 S R 22E COUNTY SAN JUAN

43-037-30938

API NUMBER

INDIAN

TYPE OF LEASE

POSTING CHECK OFF:

☐

INDEX

☐

MAP

☐

HL

☐

NID

☐☐

9-15-83

PROCESSING COMMENTS:

NEW OPERATOR - THE ISMAY FORMATION IS SPACED
FOR STANDUP 80'S (CAUSE #62) AND THIS APD IS FOR A
40 ACRE DRILLING UNIT WITH A NEBERT CREEK TEST.

NO OIL OR GAS WELLS WITHIN 4960'

CHIEF PETROLEUM ENGINEER REVIEW:

APPROVAL LETTER:

SPACING:

☐

A-3

UNIT

☐

c-3-a

CAUSE NO. & DATE

☒

c-3-b

☐

c-3-c

SPECIAL LANGUAGE:

WATER

COMPLETION FOR
PERFORATION, TESTING, OR PRODUCTION OF THE ISMAY
FORMATION IS NOT AUTHORIZED, UNLESS AN AMENDED
APD IS FILED TO EXTEND THE SIZE OF THE DRILLING
UNIT TO A STANDUP 80 ACRE UNIT AS ORDERED
BY CAUSE # 62 DATED 9-13-61

☒ RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.

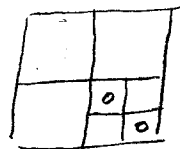
☒ AUTHENTICATE LEASE AND OPERATOR INFORMATION

☒ VERIFY ADEQUATE AND PROPER BONDING *INDIAN*

☒ AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.

☐ APPLY SPACING CONSIDERATION

STAND UP 80'S



☐ ORDER *#62 FOR ISMAY ONLY (9-13-61)*

☐ UNIT _____

☒ c-3-b

☐ c-3-c

☒ CHECK DISTANCE TO NEAREST WELL.

☒ CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.

☒ IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER

☒ IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

September 15, 1983

Hrubetz Oil Company
c/o Steedley & Associates
P. O. Box 885
Worland, Wy. 82401

RE: Well No. Cuthair 1-28
SESE Sec. 28, T.38S, R.22E
660' FSL, 660' FEL
San Juan County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to oil/gas well is hereby granted in accordance with Rule C-3(b), General Rules and Regulations and Rules of Practice and Procedure. Prior to spudding, a copy of the Utah Division of Water Rights (Phone No. 801-523-6071) approval for use or purchase of drilling water must be submitted to this office, otherwise approval is void. Completion for production of the Inmay Formation is not authorized, unless an amended APD is filed to extend the size of the drilling unit to a stand up 80 acre unit as ordered by Cause No. 62 dated September 13, 1961.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:


RONALD J. FIRTH - Chief Petroleum Engineer
Office: 533-5771
Home: 571-6068

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-037-30938.

Sincerely,


Norman C. Stout
Administrative Assistant

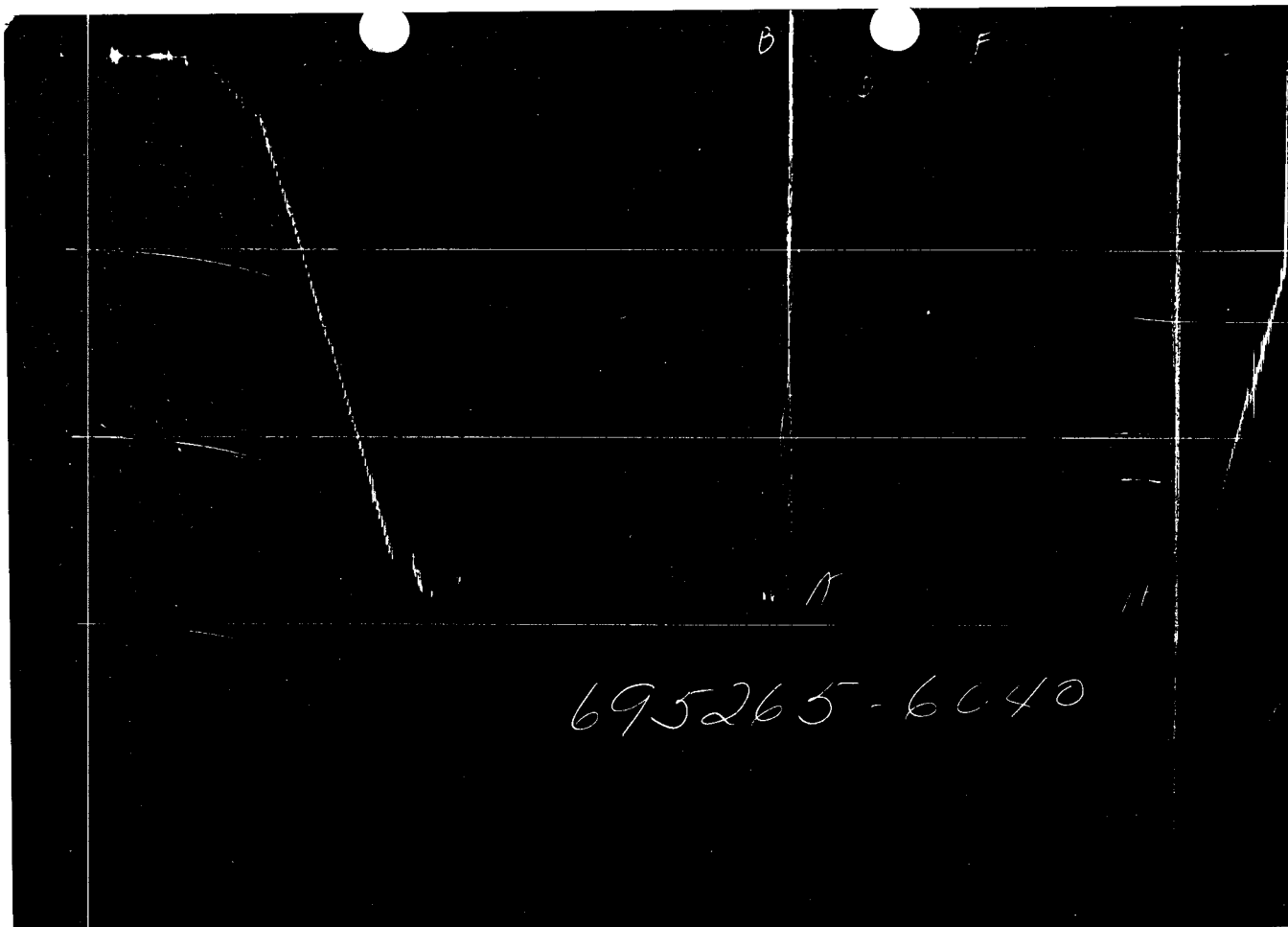
NCS/as
cc: Branch of Fluid Minerals
BILA



TICKET NO. 69526500
27-DEC-83
FARMINGTON

FORMATION TESTING SERVICE REPORT

CUTHAIR	128	1	5936.1 - 6008.1	HRUBETZ OIL COMPANY
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNC.	28 - 38S - 22E	FIELD AREA	WILDCAT	COUNTY
				SAN JUAN
				STATE
				UTAH
				SM



GUAGE NO: 6040 DEPTH: 5918.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2829	2859.9			
B	INITIAL FIRST FLOW	14	9.3	15.0	15.0	F
C	FINAL FIRST FLOW	14	9.3			
C	INITIAL FIRST CLOSED-IN	14	9.3	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	27	32.4			
E	INITIAL SECOND FLOW	14	9.4	60.0	60.0	F
F	FINAL SECOND FLOW	14	9.5			
F	INITIAL SECOND CLOSED-IN	14	9.5	120.0	120.0	C
G	FINAL SECOND CLOSED-IN	14	24.3			
H	FINAL HYDROSTATIC	2829	2834.3			

695265-6039

GAUGE NO: 6039 DEPTH: 6004.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW			15.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			30.0		C
D	FINAL FIRST CLOSED-IN					
E	INITIAL SECOND FLOW			60.0		F
F	FINAL SECOND FLOW					
F	INITIAL SECOND CLOSED-IN			120.0		C
G	FINAL SECOND CLOSED-IN					
H	FINAL HYDROSTATIC					

EQUIPMENT & HOLE DATA

FORMATION TESTED: DESERT CREEK
NET PAY (ft): _____
GROSS TESTED FOOTAGE: 72.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 4882
TOTAL DEPTH (ft): 6008.0
PACKER DEPTH(S) (ft): 5930, 5936
FINAL SURFACE CHOKE (in): _____
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 40
ESTIMATED HOLE TEMP. (°F): _____
ACTUAL HOLE TEMP. (°F): 122 @ 6008.0 ft

TICKET NUMBER: 69526500

DATE: 12-18-83 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: FARMINGTON

TESTER: H. BELL

WITNESS: RON COFFEE

DRILLING CONTRACTOR: COLEMAN #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	<u>2.180 @ 58 °F</u>	_____ ppm
RECOVERY	<u>0.880 @ 40 °F</u>	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: _____
cu.ft. OF GAS: _____
cc OF OIL: _____
cc OF WATER: _____
cc OF MUD: _____
TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

5 FEET OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

CLOCK STOPPED ON GAUGE # 6039

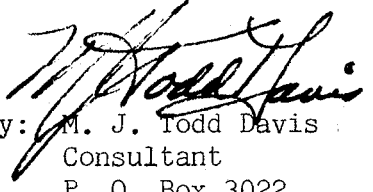
RECEIVED

DEC 28 1983

**DIVISION OF
OIL, GAS & MINING**

Well Completion Report

HRUBETZ OIL COMPANY
#1-28 Cuthair
SESE Section 28, T38S-R22E
San Juan County, Utah


Report by: M. J. Todd Davis
Consultant
P. O. Box 3022
Casper, Wyoming 82602

WELL HISTORY

DATE			DEPTH	OPERATION
December	1, 1983	0600 hrs	0	Moving in and rigging up.
"	2, 1983	0600 hrs	0	Drilling rathole and mousehole.
"	3, 1983	0600 hrs	810	Drilling 12 1/4" surface hole. Spudded noon, December 2, 1983.
"	4, 1983	0600 hrs	1608	W.O.C., ran 39 joints, 1595', 8 5/8", 24#, K-55 casing, cemented by Haliburton with good returns. Plug down at 0700 hrs December 4, 1983. Base surface casing 1608 K.B.
"	5, 1983	0600 hrs	1608	Drilling cement plug. Pressured up B.O.P., 1000#.
"	6, 1983	0600 hrs	2610	Drilling, 1002 feet in 24 hours.
"	7, 1983	0600 hrs	3310	Drilling, 700 feet in 24 hours. Trip for bit at 2867.
"	8, 1983	0600 hrs	3965	Drilling, 655 feet in 24 hours.
"	9, 1983	0600 hrs	4446	Drilling, 481 feet in 24 hours. Trip for bit at 4072.
"	10, 1983	0600 hrs	4956	Drilling, 510 feet in 24 hours. Prep to trip for hole in pipe.
"	11, 1983	0600 hrs	5292	Drilling, 336 feet in 24 hours.
"	12, 1983	0600 hrs	5621	Drilling, 329 feet in 24 hours.
"	13, 1983	0600 hrs	5740	Coring, 121 feet in 24 hours. Core time = 25-30 minutes per foot.
"	14, 1983	0600 hrs	5779	Washing to bottom. Cored 5733-5779, cut 47', recovered 45' Ismay.
"	15, 1983	0600 hrs	5976	Drilling, 195 feet in 24 hours. Trip for bit at 5966.
"	16, 1983	0600 hrs	6015	Logging, Log T.D. 6008 (7 feet fill).
"	17, 1983	0600 hrs	6015	Waiting on Vibrosies trucks for logs.
"	18, 1983	0600 hrs	6015	Running DST #1, no blow.

PLUGGING RECORD

Plug #1	5913	35 sacks	Desert Creek
Plug #2	4690	35 sacks	Hermosa
Plug #3	3058	50 sacks	Cutler
Plug #4	1926	50 Sacks	Chinle
Plug #5	1608	50 Sacks	1/2 in-out casing
Plug #6	Surface	50 sacks	With dry hole marker

Approval from Terry Galloway, U.S.G.S., Durango, Colorado
Phone 303-247-5144 December 16, 1983

FORMATION TOPS

<u>FORMATION</u>	<u>E-LOG</u>	<u>DATUM (K.B.)</u>	<u>SAMPLE</u>
Chinle	1926	+2956	
DeChelly	2934	+1948	2936
Cutler	3058	+1824	3057
Cutler Evaperites	3640	+1242	3640
Hermosa	4690	+ 192	4700
Ismay	5680	- 798	5665
Lower Ismay	5803	- 921	5773
Gothic	5882	-1000	5874
Desert Creek	5913	-1031	5893
Chimney Rock	6002	-1120	5985

Cyberlook presentation by Schlumberger

BIT RECORD

<u>NO.</u>	<u>MFGR</u>	<u>SIZE</u>	<u>TYPE</u>	<u>DEPTH</u> <u>IN</u>	<u>DEPTH</u> <u>OUT</u>	<u>FOOTAGE</u>	<u>HOURS</u> <u>RUN</u>	<u>WT</u>	<u>RPM</u>
1	Smith	12 1/4	F3RR	50	1608	1558	30 3/4	40	80
2	Smith	7 7/8	F2RR	1608	2857	1249	26 3/4	35	70
3	Hughes	7 7/8	J33RR	2857	4072	1215	40	35	70
4	Smith	7 7/8	F3	4072	5732	1660	91 1/4	40	65
5	Christensen	7 7/8	MC201	5732	5779	47	22 3/4	35	55
6	Hughes	7 7/8	J33RR	5779	5966	187	15 3/4	45	55
7	Smith	7 7/8	F-3RR	5966	6015	49	4 1/2	45	55

MUD RECORD

<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u>	<u>WT</u>	<u>VIS</u>	<u>Pv/Yp</u>	<u>pH</u>	<u>W.L.</u>	<u>CHLORIDES</u>	<u>CUMULATIVE</u> <u>COST</u>
Dec. 7, 1983	0957 hrs	3397	8.8	27		8.5		1500/20	
" 8, 1983	0830 hrs	4033	8.7	27		8.0		1500/400	\$ 1,889.00
" 9, 1983	0800 hrs	4492	8.7	27		8.0		1500/400	1,974.00
" 10, 1983	0941 hrs	4970	8.4	27		8.0		1500/440	2,478.00
" 11, 1983	1945 hrs	5503	8.9	32	7/2	10.0	13.0	1500/120	3,075.00
" 12, 1983	1030 hrs	5660	9.1	34	9/3	11.3	11.0	1300/80	5,291.00
" 13, 1983	1015 hrs	5752	9.1	35	9/3	12.0	9.6	1200/80	6,438.00
" 14, 1983	1000 hrs	5824	9.1	40	11/5	12.0	10.0	2400/80	7,319.00
" 15, 1983	0935 hrs	6015	9.2	40	12/6	12.0	9.8	2500/240	9,416.00

DEVIATIONS

<u>DEPTH</u>	<u>DEGREE</u>	<u>DEPTH</u>	<u>DEGREE</u>
150	1	3691	1/2
571	3/4	4071	1/2
1036	1	4467	1
1608	1	4882	1/4
2017	1	5435	3/4
2415	3/4	5703	3/4
2857	1/4	6015	3/4
3285	0		

SAMPLE DESCRIPTION

- Samples are lagged.
- 4500-4680 SHALE, orange-red, minor SILTSTONE, traces SAND, fine to very fine.
- 4680-4720 SHALE, as above, mottled in part, anhydritic.
- 4720-4740 SHALE, orange-red, mottled as above with trace LIMESTONE, cream, dense.
- 4740-4750 SHALE, as above, trace SAND, pink, fine, friable, slight increase SILTSTONE.
- 4750-4790 SHALE, or CLAYSTONE, green-gray, soft, slightly calcareous, trace pink LIMESTONE, mostly SHALE, orange.
- 4790-4860 Trace SHALE, gray, some SILTSTONE, orange, occasional calcite. (VERY POOR SAMPLES, SWEEPING HOLE WITH L.C.M.)
- 4860-4880 CLAYSTONE, soft, salt and pepper, light gray, with some SAND, fine, rare medium and SHALE, light gray.
- 4880-4940 Mostly SHALE, orange, silty and sandy in part, minor light gray SHALE and SILTSTONE, as above, some purple-lavender.
- 4940-4970 NO SAMPLES, hole in drill pipe, short trip.
- 4970-4990 CLAYSTONE, light gray, salt and pepper; SAND, light gray, fine, some LIME, tan, dense.
- 4990-5020 Less gray; mostly orange SHALE, as above, some maroon.
- 5020-5030 SHALE, varicolor, limy in part, with SAND, fine, slightly calcareous.
- 5030-5070 No samples - nothing coming up.
- 5070-5120 SHALE, as above, mostly orange, sandy in part, trace limestone, tan.
- 5120-5170 SHALE, orange, mottled in part with green-cream, some maroon.
- 5170-5210 SHALE, as above, with trace LIMESTONE, tan, silty; trace sand, fine orange and white.
- 5210-5260 SHALE, orange, silty in part, increase SHALE, lavender, with limestone nodules.
- 5260-5280 NO SAMPLE (Switching to flowline samples again).
- 5280-5340 SHALE, varicolored as above, traces LIMESTONE, tan, silty.
- 5340-5380 Increase LIMESTONE, cream-tan, SHALE is more calcareous.
- 5380-5450 SHALE, as above, very calcareous; LIMESTONE, gray, very sandy, fine. (Samples extremely fine.)
- 5450-5480 SHALE, gray, calcareous in part. Some LIMESTONE, light gray, silty.
- 5480-5500 LIMESTONE, gray, dense to trace fossiliferous; SHALE, as above.
- 5500-5520 SHALE, medium gray, calcareous; LIMESTONE, gray-tan; trace CHERT, very light gray and tan.
- 5520-5530 SHALE, as above, less LIME.
- 5530-5550 LIMESTONE, gray, dense and some silty and sandy.
- 5550-5560 LIMESTONE, gray dense, fossiliferous, trace crinoid, and SHALE, medium gray and trace SHALE, dark gray, silty, to almost black, slightly calcareous. (Start 5 foot samples.)
- 5560-5565 LIMESTONE, brown-gray, fine crystalline; SHALE, gray and medium gray. LIME has dull fluorescence, no cut.
- 5565-5570 SHALE, medium-dark gray, fissile, with some LIMESTONE, as above and trace ANHYDRITE, clear.
- 5570-5575 LIMESTONE, gray and brown, dense, argillaceous with trace CHERT, brown.
- 5575-5580 LIMESTONE, lighter gray with calcite and slight increase CHERT, as above, dull fluorescence, no cut.
- 5580-5585 LIMESTONE, as above, no cut. Trace SHALE, dark gray, calcite, probably fossil debris.
- 5585-5595 LIMESTONE, very light gray-white, abundant calcite, probably very fossiliferous, no shows.
- 5595-5605 SHALE, medium gray, fissile, slightly calcareous, less LIMESTONE.
- 5605-5615 LIMESTONE, gray, fossiliferous in part, argillaceous, dense, with minor chert, brown-gray; trace sandy lime.
- 5615-5625 SHALE, medium gray, silty and tan-gray LIMESTONE, slightly sandy in part.

SAMPLE DESCRIPTION (Cont'd)

- 5625-5635 LIMESTONE, as above. Trace SAND, fine to medium, round, poorly sorted, slightly calcareous, no show; trace pelletoidal LIMESTONE.
- 5635-5640 Poor sample, abundant cavings, trace dark brown CHERT.
- 5640-5645 LIMESTONE, light gray, dense, faint fossil outlines(?), silaceous in part to scattered chert fragments.
- 5645-5660 LIMESTONE, gray-tan to brown, dense, fossiliferous and slightly anhydritic. Trace fusilinid.
- 5660-5700 Poor samples. Probable mud breakdown from drilling anhydrite.
- 5700-5720 LIMESTONE, light gray and tan, dense, Dull fluorescence (mineral), some brown LIMESTONE, dense; very minor chert. ISMAY 5665.
- 5720-5727 SHALE, dark gray and gray-brown to trace black. Some Dolomite, gray, silty, scattered fossil fragments in limestone, gray brown; dull fluorescence.
- 5727 Circulated: LIMESTONE, as above. Trace black, fissile shale.
5 foot down-hole correction after strap: 5727=5732.
- Core #1 5732-5779 Cut 47 feet, recovered 45 feet.
- 5732-5736 LIMESTONE, brown, dense, dull fluorescence, no cut.
- 5736-5738 LIMESTONE, brown, dense, argillaceous, scattered crinoids.
- 5738-5741 LIMESTONE, as above, silaceous.
- 5741-5745 LIMESTONE, brown, silaceous.
- 5745-5746 LIMESTONE, dark brown, dense, crinoidal, fluorescence.
- 5746-5751 LIMESTONE, very dark brown, dense, chert nodules with odor on fresh break. (Gas kick from 5749: 448 units.)
- 5751-5753 LIMESTONE, dark brown, dense, odor on fresh break, scattered fluorescence on break faces, no porosity.
- 5753-5759.5 LIMESTONE, brown, fossiliferous, (coral and fusilinids) argillaceous faint odor on fresh break, no porosity.
- 5759.5-5763.5 LIMESTONE, as above, decreasing fossils.
- 5763.5-5767 LIMESTONE, dark brown to almost black, silaceous, fossiliferous with conchoidal fracture, scattered fluorescence and some DEAD OIL along fine laminations.
- 5767-5770 LIMESTONE, very dark brown, scattered fossils (fusilinid, crinoid) very argillaceous, no fluorescence.
- 5770-5773 LIMESTONE, as above, odor on fresh break.
- 5773-5774 SHALE, black, very calcareous, less fossils.
- 5775-5777 LIMESTONE, brown, dense, argillaceous, stylolitic in part, no fluorescence.
- 5777-5779 Missing.
- 5779-5810 LIMESTONE, brown, dense, argillaceous, trace dolomite, dark gray-black.
- 5810-5815 LIMESTONE, light gray-white, medium-coarse, crystalline calcite, various fossil shadows, no shows. Fair porosity.
- 5815-5830 LIMESTONE, buff to light gray, pseudo-fossiliferous, as above, no shows, scattered mineral fluorescence only, fair porosity.
- 5830-5840 LIMESTONE, as above, dolomitic, scattered fair porosity, no shows.
- 5840-5865 LIMESTONE, buff to light gray-white, fossils as above, no identifiable algal material, but abundant calcite, mineral fluorescence, no cut.
- 5865-5880 LIMESTONE, as above, decreasing buff and white with calcite replaced fossil debris, more tan and light gray; ?trace increase gray SHALE, 5875-5880?
- 5880-5895 SHALE, black, silty, calcareous and/or dolomitic; shale, gray and LIMESTONE, gray-brown, as above. GOTHIC 5874.
- 5895-5900 SHALE, as above and LIMESTONE, buff gray, tight, no porosity, no cut.

SAMPLE DESCRIPTION (Cont'd)

- 5900-5915 SHALE, as above, and some LIMESTONE, as above, with DOLOMITE, gray, silty to fine sandy, no show. DESERT CREEK 5893 (-1011).
- 50;5-5930 LIMESTONE, cream-white, chalky; ANHYDRITE, light gray to translucent; SHALE, as above.
- 5930-5950 LIMESTONE, cream-white, soft, chalky with ANHYDRITE with DOLOMITE, gray, silty or very fine sandy, no shows.
- 5950-5970 NO SAMPLES, by passing shaker because mud fluffed because of anhydrite.
- 5970-5980 LIMESTONE, DOLOMITE and ANHYDRITE, as above with SHALE, gray to medium-light gray.
- 5980-5990 SHALE, black, silty and dolomitic. CHIMNEY ROCK 5985.
- 5990-6005 LIMESTONE, dense, gray and brown, argillaceous to very argillaceous in part and some DOLOMITE, gray, dirty, minor SHALE, as above.
- 6005-6015 LIMESTONE, as above, and ANHYDRITE, gray, dense.



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

January 4, 1984

Hrubetz Oil Company
c/o Steedley & Associates
P O Box 885
Worland, WY 82601

Gentlemen:

Thank you for the Well Completion Report filed with this office by M. J. Todd Davis on December 28, 1983. There are, however, some problems regarding proper procedures on this well.

Enclosed is a copy of the original letter of approval for this well. You will note that it requires a copy of the Utah Division of Water Rights approval for use or purchase of drilling water be submitted to this office prior to spudding. The required documents were not received by this office. Since you have plugged and abandoned this well failure to document water rights for drilling this well will not be pursued at this time, however, compliance with requirements of this agency must occur if you intend to continue doing business in the State of Utah.

You will also note that you were requested to immediately notify Ronald J. Firth if you determined it necessary to plug and abandon this well. You did not follow this procedure. It is imperative that you immediately submit a subsequent report of abandonment on the enclosed form. In the future the correct procedure is to notify Mr. Firth and verify your plugging procedure prior to actually plugging a well.

Enclosed for your convenience are the forms that should have been submitted for this well. Please complete them as soon as possible and return them to this office to my attention.

Respectfully,

Claudia Jones
Well Records Specialist

CLJ/cj
Enclosure

WELL DATA

OPERATOR: HRUBETZ OIL COMPANY, Denver, Colorado

WELL NAME: #1-28 Cuthair

LOCATION: SESE Section 28, T38S,R22E

COUNTY & STATE: San Juan County, Utah

ELEVATION: 4882 K.B. 4869 Ground

CONTRACTOR: Coleman Drilling Co., Rig #2, Farmington, New Mexico
Draw Works: IDECO H-40-D
Power: Two Detroit Diesel V-871-Turbo
Pumps: #1 O.P.I. 700 8" stroke, Cat 379
#2 IDECO 600 16" stroke, Cat 379
Tool Pusher: John Richardson, Grand Junction, Colorado
Drillers: K. Keenom, R. Haycock, G. Forsythe, J. Corbly

SURFACE PIPE: 1595', 8 5/8", K-55, 24#, 39 joints at 1608' K.B.

COMMENCED DRILLING: Noon, December 2, 1983 ✓

CEASED DRILLING: 0935 hours, December 15, 1983 ✓

DRILLING FLUID: Dispersed Chem-Gel, Milchem, Inc., Dan Reid, Engineer

MUD LOGGING: Terra Services, Denver, Colorado, John Pudliner and Craig Cuotlee

ELECTRIC LOGGING: Schlumberger, Inc., Farmington, New Mexico, Tom Link, Engineer

CORES: Christensen Diamond Products, Farmington, New Mexico.
5732-5779

TESTS: DST #1 5936-6008 Misrun by Haliburton

ENGINEER: Ron Coffey, Consultant, Farmington, New Mexico

GEOLOGIST: M. J. Todd Davis, Consultant, Casper, Wyoming

TOTAL DEPTH: 6015 Driller, 6008 Schlumberger

STATUS: Plugged and abandoned

1-11-84

Claudia,

we are trying to get the water right permit
and as soon as I receive it, I will forward it
to you.

Dick

RECEIVED
JAN 16 1984

**DIVISION OF
OIL, GAS & MINING**

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. MOO-C-1420-3637 ✓
2. NAME OF OPERATOR Hrubetz Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR c/o Steedley & Associates, Box 971, Basin, WY 82410		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 660' FEL 660' FSL		8. FARM OR LEASE NAME
14. PERMIT NO. 43-037-30938		9. WELL NO. 1-28 Cuthair
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4869' GR		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA Sec. 28, T38S, R22E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☒ ✓(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Well was plugged as follows: 51 sacks from 6015' to 5750'
 43 sacks from 4740' to 4640'
 40 sacks from 3100' to 3000'
 45 sacks from 1976' to 1876'
 35 sacks from 1658' to 1558'-Base of 8 5/8" surface casing shoe
 20 sacks to surface

Cut off casing at ground level and welded dry hole marker on 12-19-83.

~~RECEIVED~~ BY THE STATE
 OF UTAH DIVISION OF
 OIL, GAS, AND MINING

DATE: 1/15/84BY: [Signature]

Verbal approval 1/14/83,
 to Mr. Todd Davis.

18. I hereby certify that the foregoing is true and correct

SIGNED Dick Steedley (MP)TITLE AgentDATE 1-11-84

(This space for Federal or State office use)

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY: _____

RECEIVED
FEB 2 1984

DIVISION OF
OIL, GAS & MINING

CORE ANALYSIS RESULTS FOR

HRUBETZ OIL COMPANY

NO. 1-28 CUTHAIR

WILDCAT

SAN JUAN COUNTY, UTAH

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE 1

HRUBETZ OIL COMPANY
NO. 1-28 CUTHAIR
WILDCAT
SAN JUAN COUNTY, UTAH

DATE : 12-15-83
FORMATION : PARADOX
DRLG. FLUID: WBM
LOCATION : SE SE SEC. 28 T38S R22E

FILE NO : 3807-0072
ANALYSTS : R. MOHL
ELEVATION: 4869 GR

CONVENTIONAL ANALYSIS--SUMMATION OF FLUIDS

SAMPLE NUMBER	DEPTH	PERM K _a MAXIMUM	POR. FLD	FLUID OIL	SATS. WTR	DESCRIPTION	
1	5732.0-33.0	0.01	1.1	0.0	81.1	CVF	LM VF/XLN FOSS
2	5733.0-34.0	<0.01	0.3	0.0	73.7	CVF	LM VF/XLN FOSS
3	5734.0-35.0	0.04	0.5	0.0	83.1	CVF	LM VF/XLN FOSS FYR
4	5735.0-36.0	1.24	0.4	0.0	55.5	CVF	LM VF/XLN STYO
5	5736.0-37.0	<0.01	0.3	0.0	69.0	CVF	LM VF/XLN FOSS FYR
6	5737.0-38.0	<0.01	0.3	0.0	65.9	CVF	LM VF/XLN FYR CALC INF
7	5738.0-39.0	<0.01	0.3	0.0	63.5	CVF	LM VF/XLN
8	5739.0-40.0	0.02	0.3	0.0	70.7	CVF	LM VF/XLN FOSS
9	5740.0-41.0	0.01	0.4	0.0	60.5	CVF	LM VF/XLN
10	5741.0-42.0	<0.01	0.3	0.0	71.1	CVF	LM VF/XLN FOSS
11	5742.0-43.0	<0.01	0.6	0.0	74.6		LM VF/XLN FOSS FYR
12	5743.0-44.0	<0.01	0.4	0.0	60.5	CVF	LM VF/XLN STYO
13	5744.0-45.0	<0.01	1.2	43.4	34.7		LM VF-FN/XLN FOSS
14	5745.0-46.0	0.06	0.9	11.8	23.5	CVF	LM VF/XLN FOSS CALC INF
15	5746.0-47.0	0.18	0.6	0.0	37.6	CVF	LM VF-FN/XLN STYO FOSS CALC XTLS
16	5747.0-48.0	64.	0.8	0.0	26.8	CVF	LM VF/XLN CALC INF
17	5748.0-49.0	<0.01	0.7	29.1	29.1	CVF	LM VF-FN/XLN FOSS CALC XTLS
18	5749.0-50.0	<0.01	0.7	0.0	32.8	CVF	LM VF/XLN
19	5750.0-51.0	0.35	1.6	47.5	27.1		LM FN/XLN FOSS CARB
20	5751.0-52.0	<0.01	1.3	40.0	32.0	CVF	LM FN-MED/XLN FOSS
21	5752.0-53.0	<0.01	1.0	51.5	20.6		LM FN-MED/XLN FOSS
22	5753.0-54.0	0.01	0.7	29.9	29.9		LM FN-MED/XLN FOSS
23	5754.0-55.0	<0.01	1.6	47.3	27.1		LM FN-MED/XLN FOSS CARB
24	5755.0-56.0	<0.01	1.5	36.2	28.9		LM FN-MED/XLN FOSS CARB
25	5756.0-57.0	<0.01	1.1	20.0	40.0		LM FN-MED/XLN FOSS CARB
26	5757.0-58.0	<0.01	1.0	54.4	21.7		LM FN-MED/XLN FOSS CARB
27	5758.0-59.0	<0.01	0.6	19.2	38.4		LM FN-MED/XLN FOSS CARB
28	5759.0-60.0	<0.01	1.0	51.9	20.8		LM FN-MED/XLN FOSS CARB

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE 2

HRUBETZ OIL COMPANY
NO. 1-28 CUTHAIR

DATE : 12-15-83
FORMATION : PARADOX

FILE NO : 3807-0072
ANALYSTS : R. KOHL

CONVENTIONAL ANALYSIS--SUMMATION OF FLUIDS

SAMPLE NUMBER	DEPTH	PERM K _a MAXIMUM	POR. FLD	FLUID OIL	SATS. WTR	DESCRIPTION
29	5760.0-61.0	<0.01	1.4	38.9	31.2	LM FN-MED/XLN FOSS CARB
30	5761.0-62.0	0.01	1.3	41.5	33.2	LM FN-MED/XLN FOSS CARB
31	5762.0-63.0	<0.01	0.7	31.7	31.7	LM FN-MED/XLN FOSS CARB
32	5763.0-64.0	<0.01	0.7	28.7	28.7	LM FN/XLN FOSS
33	5764.0-65.0	<0.01	1.0	54.1	21.6	LM VF-FN/XLN FOSS CARB
34	5765.0-66.0	<0.01	1.0	54.3	21.7	LM VF-FN/XLN FOSS CARB
35	5766.0-67.0	<0.01	1.7	31.6	50.5	LM VF-FN/XLN FOSS
36	5767.0-68.0	<0.01	2.1	35.8	51.1	LM FN-MED/XLN FOSS CARB
37	5768.0-69.0	<0.01	1.8	40.6	46.4	LM FN-MED/XLN FOSS CARB
38	5769.0-70.0	<0.01	2.1	35.1	50.1	LM FN-MED/XLN FOSS CARB
39	5770.0-71.0	<0.01	1.0	10.4	62.4	LM FN-MED/XLN FOSS CARB
40	5771.0-72.0	<0.01	1.4	37.6	45.1	CVF LM FN-MED/XLN FOSS
41	5772.0-73.0	<0.01	1.0	50.3	40.4	CVF LM VF/XLN CARB CALC INF
42	5773.0-74.0	<0.01	0.6	38.8	38.8	CVF LM VF/XLN CARB CALC INF
43	5774.0-75.0	0.09	0.3	0.0	70.9	CVF LM VF/XLN
44	5775.0-76.0	<0.01	0.3	0.0	81.2	CVF LM VF/XLN FOSS
45	5776.0-77.0	<0.01	0.5	0.0	80.9	CVF LM VF/XLN FOSS
	5777.0-79.0					LOST CORE

CVF=CLOSED VERTICAL FRACTURE OV=OPEN VERTICAL FRACTURE

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

HRUBETZ OIL COMPANY
NO. 1-28 CUTHAIR

DATE : 12-15-83
FORMATION : PARADOX

FILE NO. : 3807-0072
ANALYSTS : R. MOHL

*** CORE SUMMARY AVERAGES FOR 1 ZONE ***

DEPTH INTERVAL: 5732.0 TO 5777.0

FEET OF CORE ANALYZED : 45.0 FEET OF CORE INCLUDED IN AVERAGES: 45.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

PERMEABILITY HORIZONTAL RANGE (MD.)	:	0.00 TO 65.	(UNCORRECTED FOR SLIPPAGE)
FLUID POROSITY RANGE (%)	:	0.0 TO 100.0	
OIL SATURATION RANGE (%)	:	0.0 TO 100.0	
WATER SATURATION RANGE (%)	:	0.0 TO 100.0	

SHALE SAMPLES EXCLUDED FROM AVERAGES,

AVERAGES FOR DEPTH INTERVAL: 5732.0 TO 5777.0

AVERAGE PERMEABILITY (MILLIDARCIES)

ARITHMETIC PERMEABILITY	:	1.5
GEOMETRIC PERMEABILITY	:	0.01
HARMONIC PERMEABILITY	:	0.00

PRODUCTIVE CAPACITY (MILLIDARCY-FEET)

ARITHMETIC CAPACITY	:	66.
GEOMETRIC CAPACITY	:	0.34
HARMONIC CAPACITY	:	0.18

AVERAGE POROSITY (PERCENT) : 0.9

AVERAGE TOTAL WATER SATURATION : 41.6
(PERCENT OF PORE SPACE)

AVERAGE RESIDUAL OIL SATURATION : 30.2
(PERCENT OF PORE SPACE)

AVERAGE CONNATE WATER SATURATION ** :
(PERCENT OF PORE SPACE)

** ESTIMATED FROM TOTAL
WATER SATURATION.

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: HRUBETZ OIL COMPANY
FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
COUNTY, STATE: SAN JUAN COUNTY, UTAH

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.001 TO 65.
POROSITY : PERCENT (FLUID SUMMATION) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 5732.0 - 5777.0 INTERVAL LENGTH : 45.0
FEET ANALYZED IN ZONE : 45.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE	PERMEABILITY AVERAGES		
	ARITHMETIC	HARMONIC	GEOMETRIC
0.9	1.5	0.00	0.01

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: HRUBETZ OIL COMPANY
FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
COUNTY, STATE: SAN JUAN COUNTY, UTAH

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.) (ARITH)		FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.0 - 2.0	43.0	0.8	0.011	1.5	95.6	95.6
2.0 - 4.0	2.0	2.1	0.005	0.005	4.4	100.0

TOTAL NUMBER OF FEET = 45.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: HRUBETZ OIL COMPANY
FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
COUNTY, STATE: SAN JUAN COUNTY, UTAH

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.) (ARTH)		AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.005 - 0.010	33.0	0.005	0.005	1.0	73.3	73.3
0.010 - 0.020	4.0	0.010	0.010	0.9	8.9	82.2
0.020 - 0.039	1.0	0.020	0.020	0.3	2.2	84.4
0.039 - 0.078	2.0	0.049	0.050	0.7	4.4	88.9
0.078 - 0.156	1.0	0.090	0.090	0.3	2.2	91.1
0.156 - 0.312	1.0	0.180	0.180	0.6	2.2	93.3
0.312 - 0.625	1.0	0.350	0.350	1.6	2.2	95.6
0.625 - 1.250	1.0	1.2	1.2	0.4	2.2	97.8
40.- 80.	1.0	64.	64.	0.8	2.2	100.0

TOTAL NUMBER OF FEET = 45.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: HRUBETZ OIL COMPANY
FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
COUNTY, STATE: SAN JUAN COUNTY, UTAH

POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	45.0	100.0	0.9	
2.0	43.0	89.7	2.0	10.3	2.1	
4.0	45.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 40.6

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: HRUBETZ OIL COMPANY
FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
COUNTY, STATE: SAN JUAN COUNTY, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0.0	0.0	45.0	100.0	0.01	
0.010	33.0	0.2	12.0	99.8	0.09	0.06
0.020	37.0	0.3	8.0	99.7	0.26	0.16
0.039	38.0	0.3	7.0	99.7	0.38	0.22
0.078	40.0	0.5	5.0	99.5	0.85	0.44
0.156	41.0	0.6	4.0	99.4	1.50	0.62
0.312	42.0	0.9	3.0	99.1	3.03	0.88
0.625	43.0	1.4	2.0	98.6	8.91	1.25
1.250	44.0	3.3	1.0	96.7	64.00	56.57
2.500	44.0	3.3	1.0	96.7	64.00	56.57
5.	44.0	3.3	1.0	96.7	64.00	56.57
10.	44.0	3.3	1.0	96.7	64.00	56.57
20.	44.0	3.3	1.0	96.7	64.00	
40.	44.0	3.3	1.0	96.7	64.00	
80.	45.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 66.12

PERMEABILITY VS POROSITY

COMPANY: HRUBETZ OIL COMPANY
 FIELD : WILDCAT

WELL : NO. 1-28 CUTHAIR
 COUNTY, STATE: SAN JUAN COUNTY, UTAH

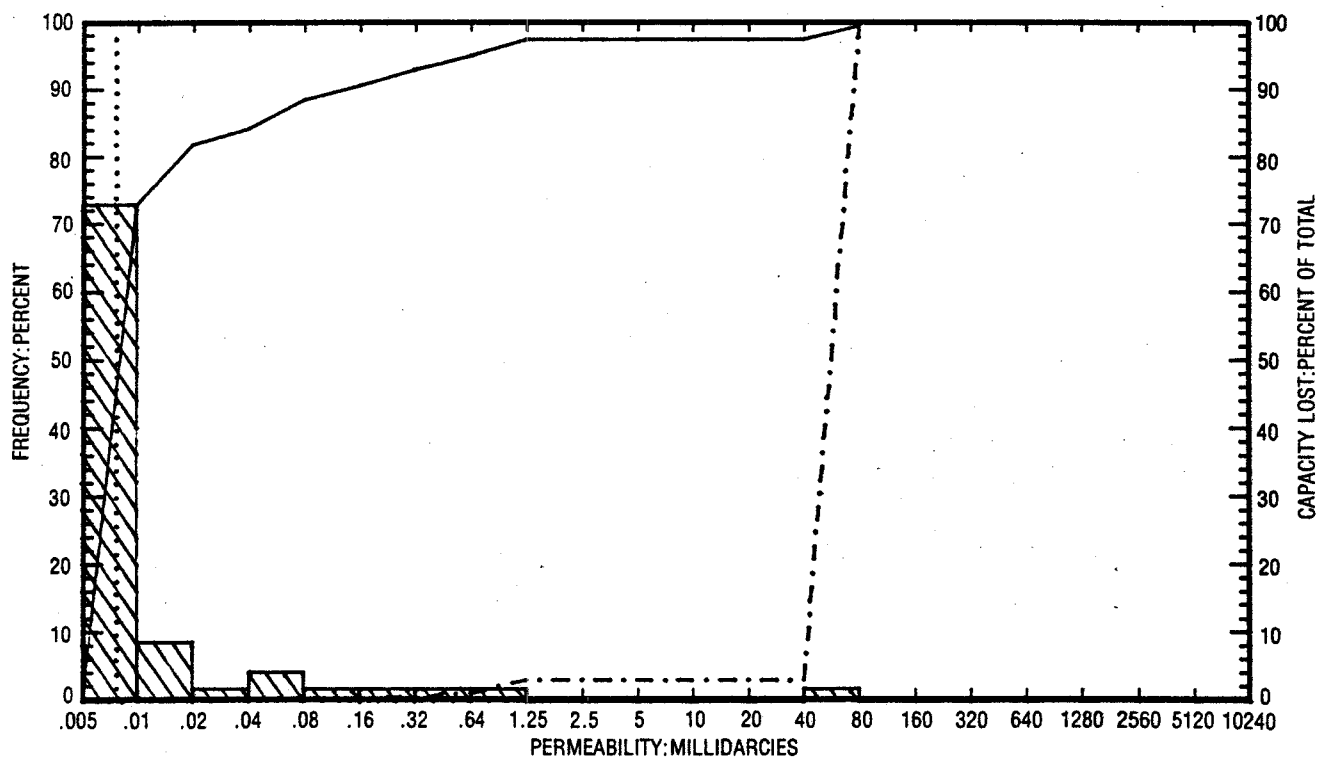
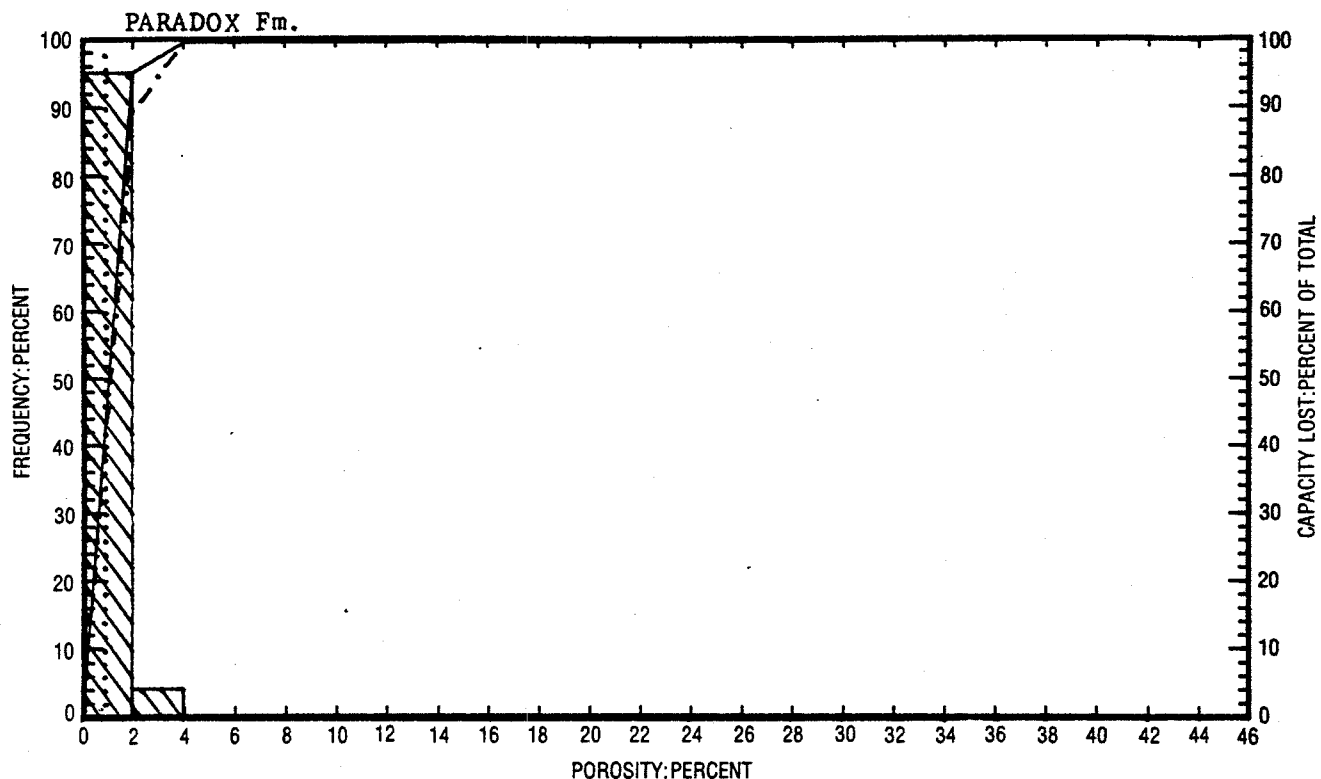
AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
 POROSITY : PERCENT (FLUID SATURATION)

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY		POROSITY		POROSITY AVERAGE	PERMEABILITY AVERAGES		
		MINIMUM	MAXIMUM	KIN.	MAX.		ARITHMETIC	HARMONIC	GEOMETRIC
5732.0 - 5777.0	1 (+)	0.001	65.0	0.0	2.5	0.9	1.5	0.00	0.01

EQUATION OF REDUCED LINE RELATING PERMEABILITY(K) TO POROSITY :

$$\begin{aligned} \log(K) &= (\text{SLOPE})(\text{POROSITY}) + \log \text{ OF INTERCEPT} \\ K &= \text{ANTILOG}((\text{SLOPE})(\text{POROSITY}) + \log \text{ OF INTERCEPT}) \end{aligned}$$

RANGE	EQUATION OF THE LINE
1	PERM = ANTILOG((1.7294)(POROSITY) + -3.6870)

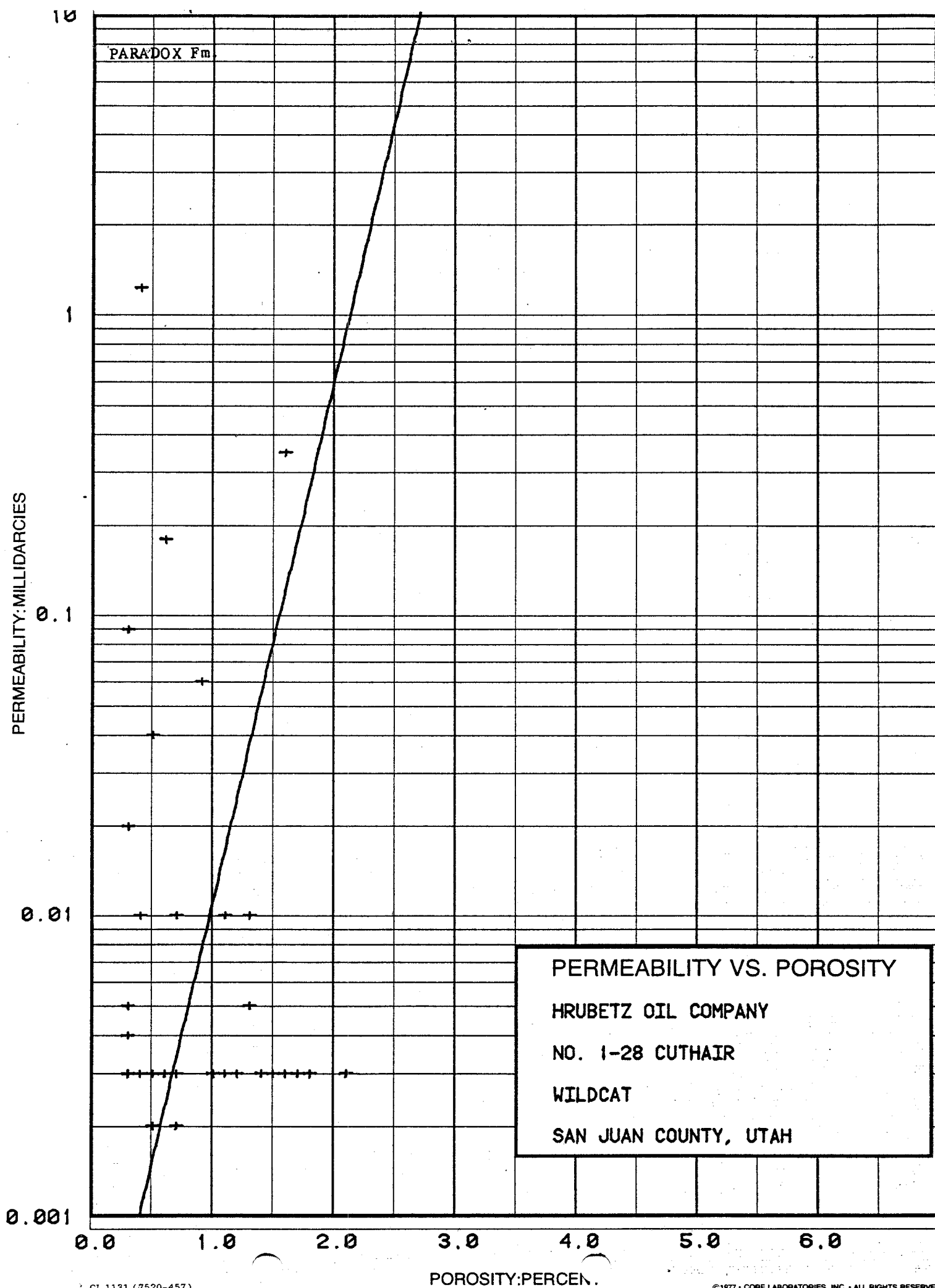


PERMEABILITY AND POROSITY HISTOGRAMS

HRUBETZ OIL COMPANY
NO. 1-28 CUTHAIR
WILDCAT
SAN JUAN COUNTY, UTAH

LEGEND

ARITHMETIC MEAN POROSITY
GEOMETRIC MEAN PERMEABILITY
MEDIAN VALUE	----
CUMULATIVE FREQUENCY	————
CUMULATIVE CAPACITY LOST



**CORE LABORATORIES, INC.***Petroleum Reservoir Engineering*

COMPANY HRUBETZ OIL COMPANY FILE NO. 3807-0072
 WELL NO. 1-28 CUTHAIR DATE 12-15-83 ENGRS. R. MOHL
 FIELD WILDCAT FORMATION PARADOX ELEV. 4869 GR
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES _____

CoRes Log

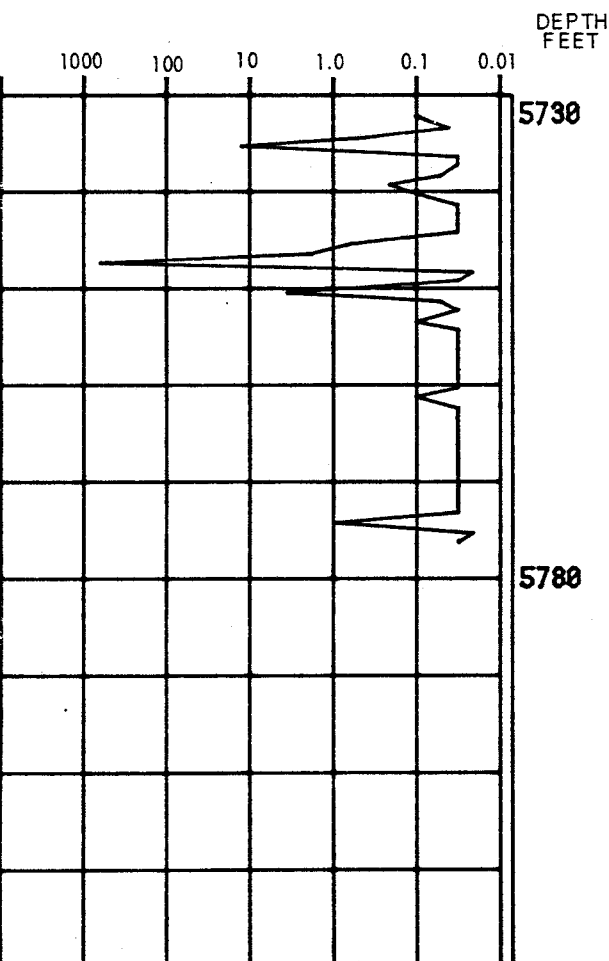
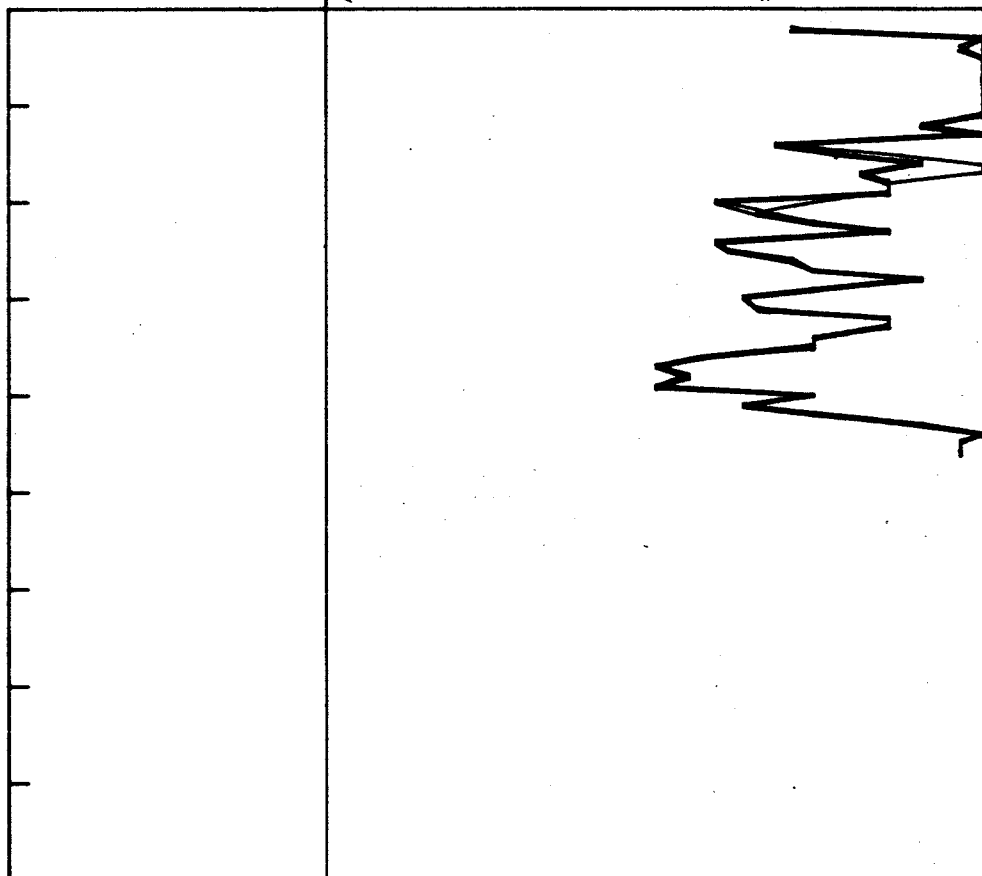
CORE and RESISTIVITY EVALUATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted) but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proven operation or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

RESISTIVITY PARAMETERS: $a = 1.00$ $m = 2.00$ $n = 2.00$ Depths 5732 to 5777
 $a =$ _____ $m =$ _____ $n =$ _____ Depths _____ to _____

PERMEABILITY
MILLIDARCIES

CORE ANALYSIS CALCULATED RESISTIVITY

 R_o = OHM-METERS AT 100% S_w _____ R_{mp} = OHM-METERS AT CRITICAL S_w _____← ONE OHM-METER REFERENCE FOR $R_w = 0.01$ 

CORE LABORATORIES, INC.**Petroleum Reservoir Engineering**COMPANY **HRUBETZ OIL COMPANY**FILE NO. **3807-0072**WELL **NO. 1-28 CUTHAIR**DATE **12-15-83**FIELD **WILDCAT**FORMATION **PARADOX**ELEV. **4869 GR**COUNTY **SAN JUAN** STATE **UTAH**DRLG. FLD. **WBM**

CORES _____

LOCATION **SE SE SEC. 28 T38S R22E**

CORRELATION COREGRAPH

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc., (all errors or omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

Gamma Ray

RADIATION INCREASE →

Permeability $\times .01$

MILLIDARCIES

Porosity _____

PERCENT

Total Water _____

PERCENT PORE SPACE

100 80 60 40 20 0

Oil Saturation _____

PERCENT PORE SPACE

0 0 20 40 60 80 100

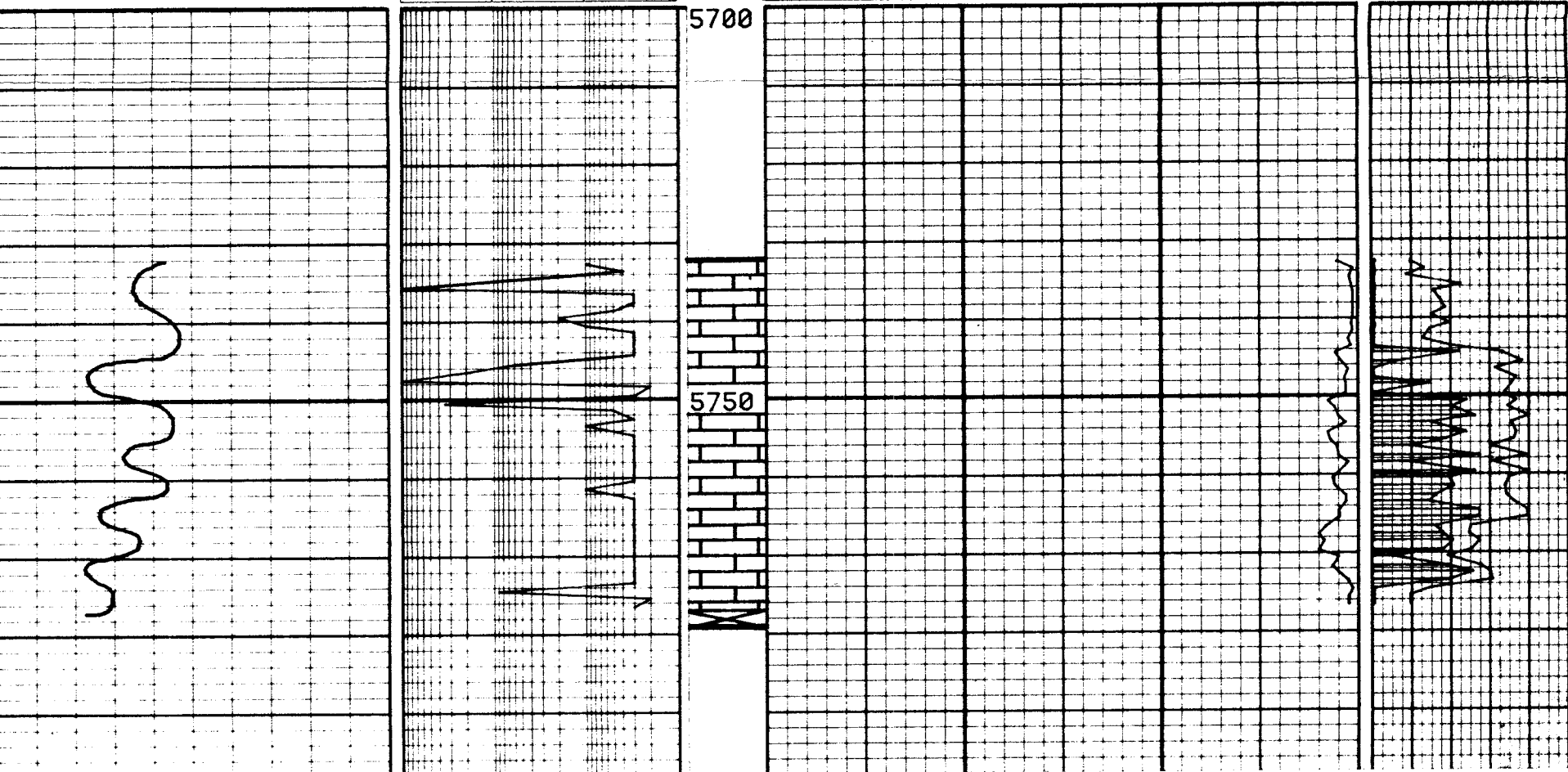
100 10 1.0 .1

Depth
Feet

30

5700

5750





STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

August 1, 1984

Hrubetz Oil Company
c/o Steedley & Associates
P.O. Box 971
Basin, Wyoming 82410

Gentlemen:

SUBJECT: Well No. Cuthair #1-28, Sec. 28, T. 38S., R. 22E.,
San Juan County, Utah; API #43-037-30938

Thank you for your submittal of the subsequent plugging and abandonment report, core analysis and electric logs on the subject well, however, this division has not received a "Well Completion Report and Log", Form OGC-3, on this location.

Rule C-5 states that within ninety (90) days after the suspension of operations on, abandonment of, or the completion of any well drilled for the production of oil and/or gas, and within ninety (90) days after the completion of any further operations on the well, if such operations involved drilling deeper or drilling or redrilling any formation, a well log shall be filed with the Commission on a form prescribed by the Commission. (Form OGC-3)

Enclosed are the necessary forms for your convenience in bringing this well into compliance with the aforementioned.

Your prompt attention to this matter will be greatly appreciated.

Sincerely,

Claudia L. Jones
Well Records Specialist

clj

Enclosure

cc: Dianne R. Nielson
Ronald J. Firth
John R. Baza
File

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION 6

5. LEASE DESIGNATION AND SERIAL NO.

M00-C-1420-3637

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL:

OIL WELL ☐GAS WELL ☐DRY ☒

Other

b. TYPE OF COMPLETION:

NEW WELL ☐WORK OVER ☐DEEP-EN ☐PLUG BACK ☐DIFF. RESVR. ☐Other Plugged & Abandoned

2. NAME OF OPERATOR

Hrubetz Oil Company

3. ADDRESS OF OPERATOR

%Steedley & Associates, P.O. Box 971, Basin, WY 82410

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface

660' FSL 666' FEL (SE $\frac{1}{4}$ SE $\frac{1}{4}$)

At top prod. interval reported below

Same

At total depth

Same

14. PERMIT NO.

DATE ISSUED

43-037-30938

9-15-83

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.

#1-28 Cuthair

10. FIELD AND POOL, OR WILDCAT

Undesignated
Wildcat

11. SEC. T. R. M., OR BLOCK AND SURVEY OR AREA

Section 28, T38S, R22E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

15. DATE SPUDDED

12-2-83

16. DATE T.D. REACHED

12-15-83

17. DATE COMPL. (Ready to prod.)

N/A

18. ELEVATIONS (DF. RKB, RT, GR, ETC.)*

4882' KB

19. ELEV. CASINGHEAD

4869

20. TOTAL DEPTH, MD & TVD

6015

21. PLUG, BACK T.D., MD & TVD

N/A

22. IF MULTIPLE COMPL., HOW MANY*

N/A

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

→ All

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

N/A

25. WAS DIRECTIONAL SURVEY MADE

None

26. TYPE ELECTRIC AND OTHER LOGS RUN

See attached well completion report

27. WAS WELL CORED

yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24# K55	1600'	12 1/4"	Circulate to surface	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

RECEIVED

31. PERFORATION RECORD (Interval, size and number)

SEP 19 1984

DIVISION OF OIL
GAS & MINING

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.*

PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
						P+A.	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BSL.	GAS—MCF.	WATER—BSL.	GAS-OIL RATIO
			→				
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BSL.	GAS—MCF.	WATER—BSL.	OIL GRAVITY-API (CORR.)	
		→					
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

Well Completion Report

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Stick Stanley

TITLE

Agent for Hrubetz

DATE

Sept. 17, 1984

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), of completion and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CURSION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	38. GEOLOGIC MARKERS	
				NAME	MEAS. DEPTH
See attached well completion report				CHINLE	1926'
				DeCHELLY	2934'
				CUTLER	3058'
				CUTLER EVAPERITES	3640'
				HERMOSA	4690'
				ISMAY	5680'
				LOWER ISMAY	5803'
				GOTHIC	5882'
				DESERT CREEK	5913'
				CHIMNEY ROCK	6002'

10